

SALT AND PEPPER: tangible hypermedia using the artoolkit

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THE ARTOOLKIT [1] TRACKS MARKER CARDS SO THAT VIRTUAL 3D OBJECTS CAN BE OVERLAID ON THE CARDS

LABELS ARE ATTACHED TO OBJECTS, PROVIDING INFORMATION ABOUT SPECIFIC DETAILS ABOUT OBJECTS' FEATURES.

LABELS ARE STORED IN FUNDAMENTAL OPEN HYPERMEDIA MODEL (FOHM) [2] LINKBASES SERVED BY THE AULD LINKY LINK SERVER [3].

TWO TYPES OF MARKERS ARE USED - OBJECT MARKERS AND SPICE PILE MARKERS.

OBJECT MARKERS ARE USED TO DISPLAY OBJECTS

EACH SPICE PILE REPRESENTS A DIFFERENT CONCEPT OR CONTEXT.

SPRINKLING IS USED TO ADD LABELS THAT ARE RELEVANT TO USERS' INTERESTS.

AS USERS PICK UP A SPICE PILE AND SHAKE IT...
 ...SMALL PARTICLES DROP FROM IT AND FLY ONTO THE VISIBLE OBJECTS.

AS PARTICLES LAND ON AN OBJECT INFORMATION LABELS POP UP.

IF TOO MANY LABELS HAVE BEEN ADDED, USERS CAN PICK UP THE OBJECT AND SHAKE IT, CAUSING THE LABELS ON THE OBJECT TO FLY OFF AND DISAPPEAR.

EVOLVING INFORMATION: LABELS CAN CHANGE AND MIGHT EVEN DISAPPEAR.

EACH SPICE PILE REPRESENTS A CERTAIN CONTEXTUAL ELEMENT, E.G. A "TECHNICAL CONTEXT PILE" AND A "HISTORICAL CONTEXT PILE".

PARTICLES FALLING ONTO OBJECTS FROM THE SPICE PILE ARE UNITS OF A CERTAIN CONTEXT.

AS CONTEXT IS SPRINKLED ONTO AN OBJECT, ITS CONTEXT CHANGES SO THAT LABELS APPLIED TO THAT OBJECT WILL REFLECT THE NEW CONTEXT.

AN OBJECT'S CONTEXT CAN BE CONSTRUCTED WITH PARTICLES FROM DIFFERENT SPICE PILES, RESULTING IN A MIXTURE OF CONTEXTS.

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THERE ARE ALSO LINK LABELS, WHICH ACT AS LINK ANCHORS THAT USERS CAN SELECT AND FOLLOW. DESCRIPTIVE LABELS ARE DRAWN WITH WHITE BACKGROUNDS WHILE LINK LABELS HAVE YELLOW BACKGROUNDS.

USERS SELECT A LINK TO FOLLOW BY ROTATING THE OBJECT SO THAT THE LINK LABEL THEY ARE INTERESTED IN IS THE ONE CLOSEST TO THEM.

THE CURRENTLY SELECTED LABEL IS HIGHLIGHTED BY A BLUE BORDER; LABELS WITH SEVERAL LINES OF TEXT ARE UNFOLDED AS THEY ARE SELECTED SO THAT THE WHOLE LABEL CAN BE SEEN.

The wings were made

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HOLDING UP AN EMPTY OBJECT MARKER CARD TO THE SIDE OF THE CURRENT OBJECT TRIGGERS THE DESTINATION OBJECT TO BE LOADED ON THE NEW MARKER.

WHEN SEVERAL OBJECT MARKER CARDS ARE VISIBLE, USERS CAN STILL SPRINKLE LINKS AND LABELS ONTO THEM BY SHAKING THE SPICE PILE.

AS PARTICLES FALL FROM THE SPICE PILES, THEY ARE DISTRIBUTED EVENLY AMONGST ALL OF THE VISIBLE OBJECTS.

LINKS BETWEEN VISIBLE OBJECTS ARE SHOWN BY DRAWING AN ELASTIC LINE BETWEEN THE TWO ANCHORS. THIS LINE HAS A TEXT LABEL IN THE MIDDLE DESCRIBING THE LINK.

[1] BILLINGHURST, M., AND KATO, H. COLLABORATIVE MIXED REALITY. IN PROCEEDINGS OF INTERNATIONAL SYMPOSIUM ON MIXED REALITY (ISMIR '99), MIXED REALITY - MERGING REAL AND VIRTUAL WORLDS, 1999
 [2] MILLARD, D. E., MOREAU, L., DAVIS, H. C., AND REICH, S. FOHM: A FUNDAMENTAL OPEN HYPERTEXT MODEL FOR INVESTIGATING INTEROPERABILITY BETWEEN HYPERTEXT DOMAINS. IN PROCEEDINGS OF THE '00 ACM CONFERENCE ON HYPERTEXT, 2000
 [3] MICHAELIDES, D. Y., MILLARD, D. E., WEAL, M. S., AND ROURE, D. C. D. AULD LEAKY: A CONTEXTUAL OPEN HYPERMEDIA LINK SERVER. IN PROCEEDINGS OF THE SEVENTH WORKSHOP ON OPEN HYPERMEDIA SYSTEMS, 2001
 PATRICK SINCLAIR AND KIRK MARTINEZ INTELLIGENCE AGENTS, MULTIMEDIA UNIVERSITY OF SOUTHAMPTON